ACC048PA

## ABSTRACT OF THE DISCLOSURE

Beta gauge composition correction is performed using signals from a plurality of detectors that are positioned so that the ratio of radiation received by the detectors depends on the composition of material through which the radiation passes before reaching the detectors. Radiation is measured at the detectors and the differences between radiation received by the detectors is used to compensate the beta gauge to correct for composition variations. An array of detectors is divided into inner detectors generally aligned with the central portion of a beta radiation beam and at least one set of outer detectors surrounding, at least in part, the inner detectors. Measurements are made including all the detectors, the inner detectors and the at least one set of outer detectors with the difference between the measurements made by the inner detectors and the outer detectors being used to compensate the total measurement made by all the detectors.